

groups metals
1
+
2
3
Transition metals

Li
K
Ca
Na
Mg
Al
Zn
Fe
H
Cu
Hg
Ag

MORE
REACTIVE

↓
LESS
REACTION

halogens

F
Cl
Br
I



Zinc + Copper II Nitrate
yield

Zinc(II) Nitrate + copper



$$Fe = 1$$

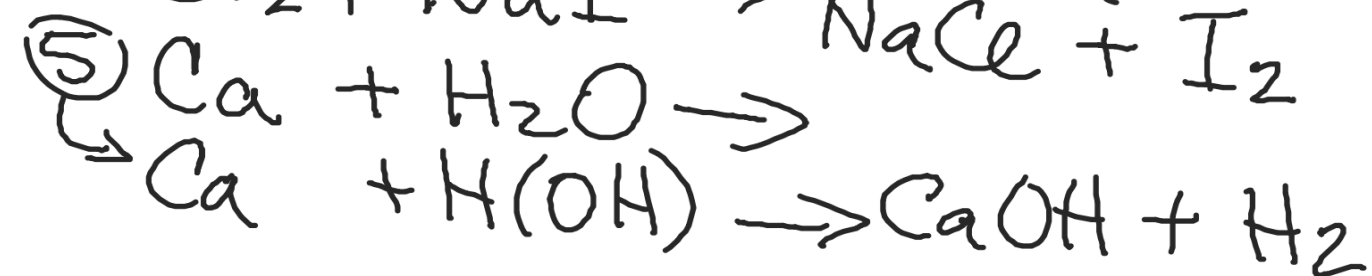
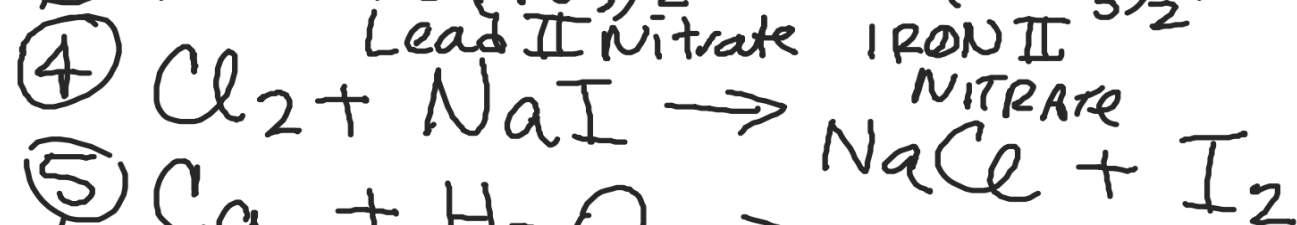
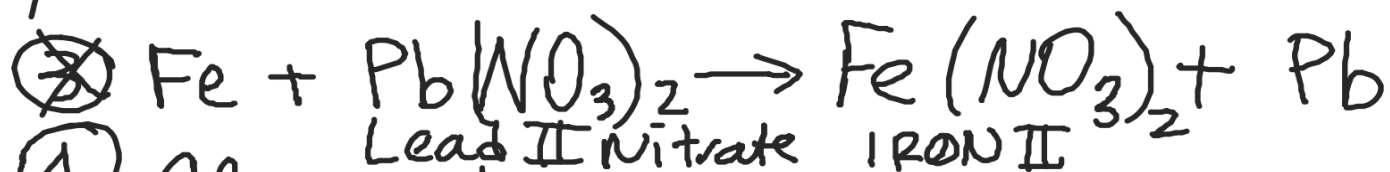
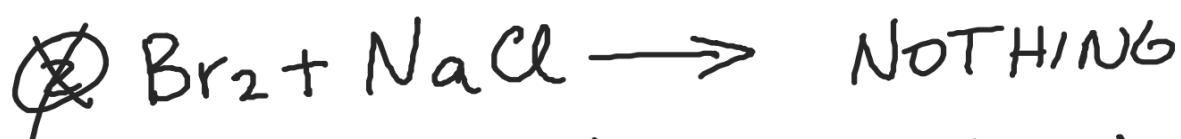
$$H = 1 \times 3 \times 2 = 6$$

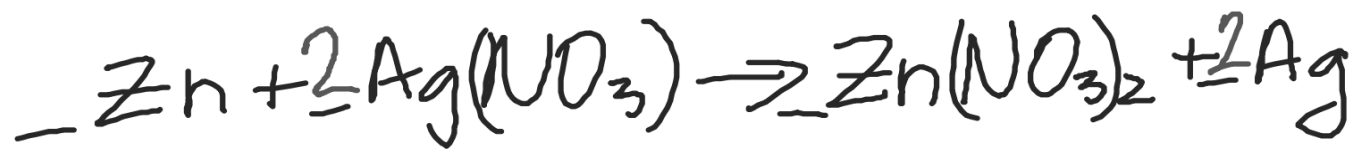
$$Cl = 1 \times \boxed{3 \times 2} = 6$$

$$Fe = 1 \times 2$$

$$H = 2 \times 3 = 6$$

$$Cl = 3 \times 2 = 6$$





$$\text{Zn} = 1$$

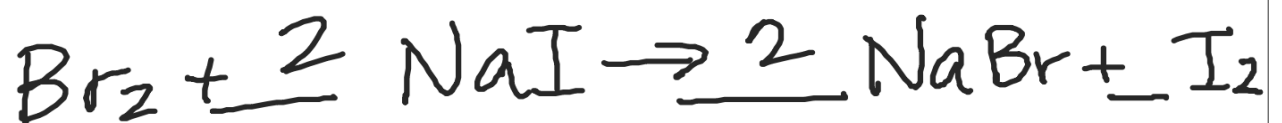
$$\text{Ag} = 1 \times 2 = 2$$

$$\text{NO}_3 = 1 \times 2 = 2$$

$$\text{Zn} = 1$$

$$\text{Ag} = 1 \times 2 = 2$$

$$\text{NO}_3 = 2$$



$$\text{Br} = 2$$

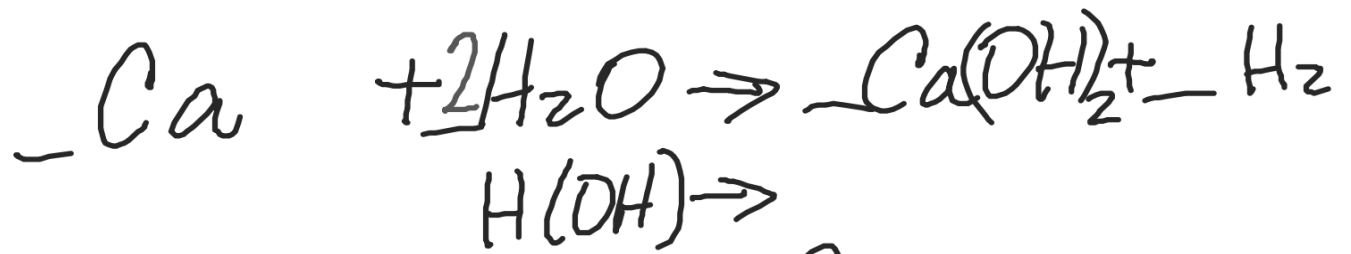
$$\text{Na} = 1 \times 2 = 2$$

$$\text{I} = 1 \times 2 = 2$$

$$\text{Br} = 1 \times 2 = 2$$

$$\text{Na} = 1 \times 2$$

$$\text{I} = 2$$



$$\text{Ca} = 1$$

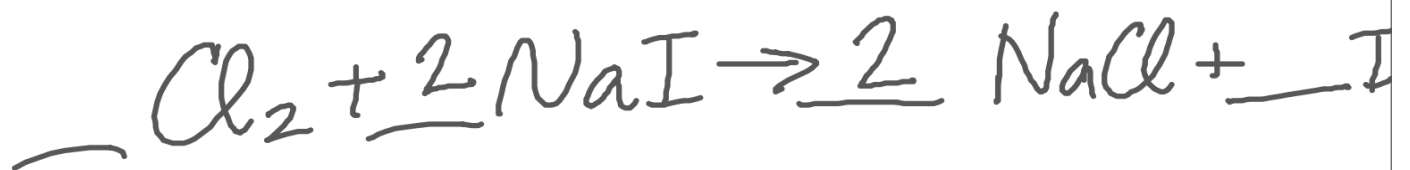
$$\text{H} = 1 \times 2 = 2$$

$$\text{OH} = 1 \times 2 = 2$$

$$\text{Ca} = 1$$

$$\text{H} = 2$$

$$(\text{OH}) = 2$$



$$\text{Cl} = 2$$

$$\text{Na} = 1 \times 2 = 2$$

$$\text{I} = 1 \times 2 = 2$$

$$\text{Cl} = 1 \times 2 = 2$$

$$\text{Na} = 1 \times 2 = 2$$

$$\text{I} = 2$$

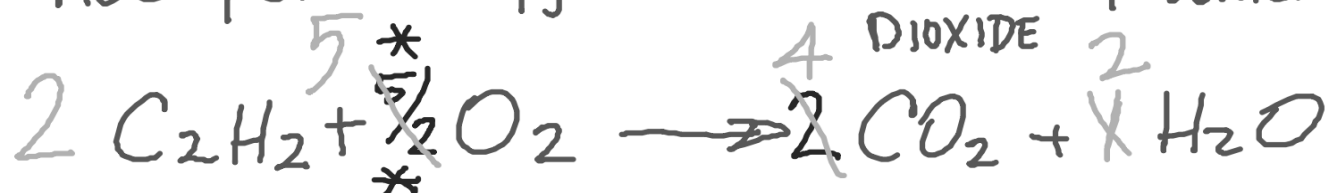
WATER + Calcium Carbide \rightarrow Acetylene + Calcium Hydroxide



H(OH)

H = 1 x 2 = 2	H = 2
OH = 1 x 2 = 2	OH = 2
Ca = 1	Ca = 1
C = 2	C = 2

Acetylene + Oxygen $\xrightarrow{\Delta}$ Carbon + WATER



$$\text{C} = 2$$

$$\text{H} = 2$$

$$\text{O} = 2 \times \frac{5}{2} = 5$$

$$\text{C} = 1 \times 2$$

$$\text{H} = 2$$

$$\text{O} = 2 + 1$$

$$\times 2$$

$$4 + 1 = 5$$

But $\frac{5}{2}$ is NOT A whole #
then multiply ALL by 2